

# THE EUGENICS REVIEW

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with co-incident menstrual flow." What can this mean to a layman?

Furthermore, in the first chapter Dr. Tenenbaum seems to imply that sex and reproduction are synonymous. If our knowledge of the evolution of sex is correct, this, of course, is not the case; thus, in the Protozoa sex often has nothing directly to do with reproduction—as in the conjugation of *Paramecium*. All the evidence we have would appear to point to the evolution of sex as a later factor in life which was absent in the first-formed creatures and probably only played a subsidiary part in those that came next. It is not until we get to the triploblastic animals that sex becomes closely bound up with reproduction. The reviewer trembles at what a botanist would say of the author's description of the reproduction of the flowering plant.

The book would have been greatly improved by the addition of some diagrams—e.g. of gametes in Chapter I—while the clearness of the description of Mendelism would have been enhanced by the inclusion of some of the more familiar tables.

It goes against the grain with the reviewer to criticize this book in this way. A book of this sort is badly needed, but as it stands at present, one feels that *The Riddle of Sex* will fail to get the appreciation it deserves on account of the way in which it is written. Dr. Tenenbaum's method has, we understand, been most successful in the United States, but for the British public, a popular scientific book is much more likely to appeal if written in the quiet, conversational style which we are accustomed to expect and appreciate from the pens of men like Clodd, Jeans, and J. Arthur Thomson.

C. C. HENTSCHEL.

**Townroe, B. S., M.A., hon. A.R.I.B.A.** *The Slum Problem*. London, 1930. Longmans, Green. Pp. xi+220. Price 6s.

THIS useful book was first reviewed, under the heading of "Slums and Eugenics," in the last January number of this REVIEW (page 273). It has now been reissued with an additional chapter on the 1930 Housing Act. The whole book is a valuable and strictly non-political survey of the slum problem, to which it is a complete and handy guide.

**Wexberg, Erwin.** *Individual Psychology*. Translated by W. Beran Wolfe. London, 1930. Allen & Unwin. Pp. 442. Price 15s.

THIS is a simple exposition of Adlerian theory written by one of Adler's most brilliant pupils.

But only a shade simpler than Adler himself.

Despite the assurance of the translator, we note no new development in the theory. "Individual psychology teaches us that so and so is so, etc." This indicates the tone of the book generally.

Adler's theory has always been popular with teachers, lay-people, and in America, perhaps because of a certain simplicity. Since its inception, however, the theory has been consistently sterile and has undergone no healthy biological growth. Clinicians generally—whatever their school—have preferred Freud, who was primarily a clinical observer and only later a formulator of theories.

H. HARRIS.

**Whitaker's Almanack for 1931.** London, 1930. Pp. 960. Price 6s. (Pp. 640, with paper cover, 3s.)

THIS invaluable reference book contains many new additions to a compilation of general, everyday information which has always been remarkably complete. Anyone dealing with population will find a handy and compact reference list on pages 83-5, while the main facts of English vital statistics can easily be found under their appropriate headings. There are also many details about Poor Law, recent legislation, public health, and so on.

## PAMPHLETS

**A Case of Microcephaly Following Embryonic Roentgen Irradiation.** Edgar A. Doll and Douglas P. Murphy. (Reprint from the *Proceedings of the Fifty-Third Annual Session of the American Association for the Study of the Feeble-minded*.)

REFERENCE is first made here to certain previous investigations:

"Of 76 full-term children, irradiated in utero, 25 (or 33 per cent.) were defective at birth. Seventeen of these presented feeble-mindedness of the microcephalic type, while the remaining eight exhibited other deviations from the normal."

The mother and father of the present case were not only normal, but of superior type with good heredity, the one defect in the former

having been irregular menstruation and occasional amenorrhœa. The birth of the first child, a year after marriage, was normal, but it died in thirteen hours, supposedly from heart failure. Two further children were normal, healthy, and well above average.

At the age of thirty-three the mother developed profuse vaginal bleeding, and received heavy doses of roentgen irradiation, which checked the hæmorrhage. It was not at the time suspected that she was pregnant, but six months later she gave birth to an apparently full-term male child, which weighed less than four pounds. Examined four years later, the child showed distinct microcephaly, inferior physique and development, and an intelligence quotient of only 44; those of his two elder brothers are 125 and 117, respectively.

Apparently the irradiation had no further effect, since two years later the mother gave birth to a girl who has now been shown, at the age of two years, to be above normal, mentally and physically.

**An Experiment in the Logical Memory of Sub-normals.** T. G. Hegge. (Reprint from the *Training School Bulletin*, October 1929, Vol. XXVI, No. 6.)

USING a simple story as test material, Hegge made a preliminary investigation of ninety-eight mental defectives. Between memory as tested by him and the I.Q. he found a positive correlation so high as 0.77. He came to the conclusion that children with mental ages of 7 or more have sufficient memory to profit from hearing simple stories or fables. Those below 4.5 years are unlikely to profit, while those between 4.5 and 6.9 may do so.

One feels, incidentally, that it would be convenient to reserve the word subnormal for those whose I.Q. is below the norm, but above the de-limiting age for mental deficiency; that is to say, those whose mental age is above 8 or 9 years and below 12.

H. HARRIS.

**A propos des Congrès Scientifiques Internationaux.** (Lettre adressée à un savant allemand par un membre de l'Institut Internationale d'Anthropologie et des anciens Congrès internationaux d'Anthropologie et d'Archeologie préhistorique.) An anonymous pamphlet privately printed at the Imprimerie Languedocienne, Toulouse, November 1930.

"ALL passes, all changes"—a general lament uttered first by a Frenchman, and now repeated for the particular by another. Why, asks the anonymous writer of this brilliant pamphlet, can

we not regain the true international spirit of those pre-War conferences? Why must committees to-day be composed of so many of each nation—not so many scientists? It would be an insult to attempt to précis this 'letter,' written with a sincerity and power which leave one regretting the anonymity the writer has chosen to protect himself; but one may quote.

"This, then, is the situation which faces us. The national feeling of certain scientists has been wounded because their countries are not represented, at the organization of Congresses, in a manner numerically satisfactory, whilst others attain a position which is exaggerated. One sees at once that the interests of science do not lie at the root of the matter, but only the questions of national prestige and of jealousy. As an Englishman said at Coïmbra, 'Apart from Internationalism, we are witnessing a violent awakening of national feeling.' . . .

"There are those—and I count myself one of them—who visualize the internationalism of science in a manner which seems to me wider, less Byzantine, less formal: the scientific outlook, the interests of science conquering all things, passing beyond those frontiers which they ignore: calling for a collaboration among all men, no matter to what country they belong, no matter what their nationality, but only their science and their true worth. . . .

"I know that with the unrest and the unloosing of passions occasioned by the War, this is a thing difficult to obtain. If each and every scientist were sincerely to examine his conscience, he would find that those reproaches which, from this point of view, he throws at others, can often be returned to him."

A lament? Perhaps: but a lament whose sincerity of purpose carries the conviction that soon there will remain no cause for it.

PETER GRAY.

## BIRTH CONTROL

- 1.—**Report of the Conference on the Giving of Information on Birth Control by Public Health Authorities** (second edition). London, 1930. Birth Control International Information Centre. Pp. 36. Price 6d.
- 2.—**International Medical Group for the Investigation of Contraception** (Third Issue, September, 1930.) London. Pp. 43, illus. Price 6d.
- 3.—**Annual Report, 1928-29.** Society for the Provision of Birth Control Clinics. Pp. 18.

**4.—Laws Concerning Birth Control in the United States.** Committee on Federal Legislation for Birth Control. New York, 1929. Pp. 39. Price 25 cents.

THE most important thing in the first of these publications is the full text of the Minister of Health's statement on the Government's attitude towards birth control. It has now been decided that welfare centres under the control of local authorities may give contraceptive advice on "medical grounds"—that is to "... cases where further pregnancy would be detrimental to health, and should be given at a separate session and under conditions such as will not disturb the normal and primary work of the Centre." Furthermore, special clinics may be established for that express purpose.

The Minister's memorandum, from which these quotations are taken, is given in full on pages 32 and 33 of the *Report*, and should be read by those interested. But while it still limits contraceptive advice to those in need of it for gynæcological reasons—a fairly elastic condition, susceptible of generous interpretation—the present Labour Government, it seems clear, has had the courage to go a great deal farther than its predecessors.

The *Report* continues by giving a list of sixty-five public health authorities that have in principle approved of taking advantage of the Government's permission to supply contraceptive advice, including nine that are already taking action.

Further reference to this subject will be found here in *Notes of the Quarter* (page 237) and in Mrs. How-Martyn's letter on page 325.

The second publication contains much material of the greatest interest to gynæcologists and others concerned with the technique of contraception.

Dr. J. H. Leunbach, of Denmark, usefully discusses the fitting of rubber pessaries, and says that, in his experience, the larger they are, the better—since they are easy for the woman to insert, practically cannot remain in the wrong position, and do not inconvenience man or woman.

He also deals with the Gräfenberg ring, 114 of which he had himself inserted up to January 1st of last year. He describes his methods of insertion and, while admitting that virgins may sometimes experience momentary severe pain, says that an anæsthetic is usually entirely unnecessary. Women who have borne children experience practically no pain at all from the operation.

A point of much biological interest is that rings of *other* materials, especially fishgut, have been used, apparently with success, in Germany for several years. If this is so, the hypothesis must be abandoned that the Gräfen-

berg ring achieves its effect either through the bactericidal action of silver or else by its alteration of the hydrogen-ion concentration in the womb.

Suddenly, however, in a postscript dated July 1930, Dr. Leunbach abandons his previous guarded approval of the ring, on the ground that, though the majority of his patients are still wearing it and are "very content," it has not always proved entirely harmless, has several times fallen out, and has twice failed.

Immediately following, Dr. Gräfenberg himself discusses his device at length, giving technical details of much value, though there is nothing of general interest that has not already been mentioned in the *Review*. It seems that the ring is by no means suitable for all women, and it appears possible that Dr. Leunbach's untoward results may have been due to the choice of unsuitable cases or of the wrong-sized rings. The latter hypothesis seems to receive confirmation from a brief but interesting series of notes from Dr. Norman Haire, who has also been using the ring. From these, as from one case of Dr. Leunbach's, it now seems clear that, whatever the effect of the ring, it is *not* an abortifacient, as has sometimes been thought. Dr. Haire's general verdict is favourable.

The bulk of the rest of this *Report* is occupied by a survey of English contraceptive activities, including Dr. J. R. Baker's bio-chemical studies.

The third *Report* surveys the year's activities of that Society and summarizes the work of its affiliated clinics, thirteen in number, besides giving some case histories, illustrative examples, and the like. But the most interesting passage eugenically occurs at the top of page 8:

"Another aspect of the work, of great significance from the point of view of public health, is the fact that a number of medical officers of mental hospitals and tuberculosis sanatoria refer patients or patients' wives on temporary or final discharge to the Centres for advice."

This is the most hopeful sign to date that birth control may eventually abandon its dysgenic practices and assist in the work of improving the race. At the same time, we should like to know how many of those patients can and do make use, and with what effect, of the advice they receive. Also, the *Report* continues:

"... but it is much to be regretted that the practice is not more general, for in many cases patients are allowed home from time to time on short leave, and, where no opportunity for Birth Control advice is provided, the almost inevitable result is that pregnancy occurs."

It would certainly be hard to find a better example of the sublime asininity—we helplessly deprecate our own language—of the social order which thus takes every possible precaution to continue the existence of the burdens it bewails.

The most immediately striking feature of the fourth pamphlet, dealing with legislation in the United States, is its particularly attractive print and general 'make-up.' It positively calls out to be read. Apart from that, it must, of course, appeal more to American than to English readers, though to the latter it presents several points of intriguing interest. The Comstock legislation itself, for instance, is so sweepingly inclusive that, if interpreted by an English court, it would undoubtedly forbid the circulation through the mails of this REVIEW—and yet, not only does the REVIEW, sent in an open envelope as printed matter, regularly reach some hundreds of American readers, but also we are constantly receiving from the U.S.A. printed matter that is much more frankly contraceptionist in tone and intention. Again, it is the Californian law which has the following clause, similar to those of many other States:

"Every person who wilfully writes, composes or publishes any notice or advertisement of medicine, or means for producing or facilitating a miscarriage or abortion, or for the prevention of conception, or who offers his service by any notice, advertisement or otherwise, to assist in the accomplishment of any such purpose, is guilty of a felony."

—and yet it is from California that we receive the excellent series of publications from the Human Betterment Foundation, Pasadena, dealing with every possible aspect of sterilization. Surely no one can plead that, Sterilization Act or otherwise, these publications are not covered by the italicized passage!

But perhaps the most astonishing passage occurs in the Colorado Act, which forbids the publication, circulation, etc., of any matter containing, among many other things, "recipe or prescriptions . . . for the cure of chronic female complaints. . . ."

Exclamation marks are inadequate; and we can only surmise that the type of mentality which sometimes rules in the more sequestered Parish Councils of England, has in America been promoted, by sheer rapid growth of population and prosperity, to the responsible governance of millions of persons.

E. M.

**Differenzierte Fortpflanzung.** Professor Dr. Herrmann Muckermann. (Reprinted from *Archiv für Rassen- und Gesellschaftsbiologie*, Vol. XXIV.) Pp. 22.

THE study of the differential birth rates has in recent times become less interesting. Neverthe-

less, the present study of Professor Muckermann is of the greatest value, because it deals with a group of undoubted intellectual superiority, namely with the German university professors. Nearly 3,500 professors were questioned; 87.5 per cent. of them answered. The birth rate is, of course, a low one, but not so low as one would expect.

No children	...	...	...	15%
1 or 2 children	...	...	...	32%
3 or 4	„	...	...	36%
5 or 6	„	...	...	13%
7 or 8	„	...	...	3%
9 or more children	...	...	...	1%

The average number of children per completed family, including childless marriages, is 2.8, and the number reaching adult age 2.4.

A closer study of the figures shows that fertility decreased somewhat in the decades before 1895; since then it has remained practically constant, although the general birth rate of Germany decreased by about 50 per cent. during the same time. If we consider only the period since 1895, we find that the average number of children is 1.65 in the first five years of marriage, 0.65 in the second quinquennium, and 0.3 after the first decade. This gives a total average of 2.6 children per completed family. As the number (since 1895) reaching maturity is 2.2 and the percentage of unmarried professors about ten, the fertility of the group studied is just large enough to replace the parents.

As a very interesting comparison, data are given for two German villages, where contraception is still unknown. There the average number of children is more than six per completed family, and the children are spread fairly evenly over the years of married life:

No children	...	...	...	4%
1 or 2 children	...	...	...	4%
3 or 4	„	...	...	14%
5 or 6	„	...	...	17%
7 or 8	„	...	...	27%
9 or more children	...	...	...	34%

C. TIETZE.

**Erbschädigung beim Menschen.** Eugen Fischer. (Reprint from *Das kommende Geschlecht*, Vol. V, No. 6.) Pp. 19.

THIS pamphlet deals with the deteriorating influences of X-rays on the human germplasm. During the last decade such influences have been proved with the greatest certainty in such lower organisms as plants, fruit-flies, mice, and rabbits. A great number of biologists have been able by irradiation to produce mutations—lethal factors or deformities, especially eye

deformities. The effects of X-ray treatment are much clearer than those of alcohol, and other "racial poisons," the experiments with which have never been impervious to criticism.

To-day, diseases of the female reproductive organs are often treated with X-rays, and in many cases only temporary sterility is achieved. The ova fertilized afterwards have, of course, been subject to the irradiation, and it is not only possible, but also probable, that they have been impaired in some way. The children of the women in question are mostly healthy and without signs of inferiority; but as most mutations are recessive, their appearance can only be expected in later generations.

Professor Fischer closes his pamphlet with a severe warning: X-rays should not be used for temporary sterilization, until it is proved with absolute certainty that they do not impair the human germplasm.

C. TIETZE.

#### **Etudes Statistiques sur les Effets Eugéniques de la Guerre. XIX<sup>e</sup> Session de l'Institut International de Statistic. Tokio, 1930.**

COUNT Yasutoshi de Yanagisawa has accomplished, with the assistance of Atsushi Sakamoto and Koren Ko, a feat rare among actuaries; he has succeeded in producing a collection of data free from unnecessary conclusions. The tables given show both actual and percentage figures side by side, thus enabling the student to form for himself both an opinion and an estimate of the reliability of this opinion. The study concludes: "We cannot say that the War had no effect upon such a far-distant country as ours, even though we took part in it, but it seems to me that there has been no effect either on the age ratio or on the children born."

PETER GRAY.

#### **Extinction and Extermination. I. P. Tolmachoff. (Reprint from the *Smithsonian Report for 1929*. Pp. 269-84.)**

THIS interesting little pamphlet is full of suggestiveness as to the methods of evolution. According to Mr. Tolmachoff, the normal course of evolution has been interrupted by extinction many times:

"There is no line of evolution to which this statement would not apply. Races have been preserved not by means of their most brilliant representatives, for great achievements cause some deficiency of vital racial force, but rather through mediocre individuals. We are even able to establish an empiric law that 'the upwelling of future organic rulers begins in unobtrusive small forms,' or, as expressed by

Cope, in the 'survival of the unspecialized,' because, as he states, the highly developed or greatly specialized types of one geologic period are not the parents of the types of succeeding periods.

"Especially important and interesting in this respect are those persistent types that have gone through a number of geological periods without great alterations in structure. Their evolution has been arrested, and in recompense they have received a longevity that seems to approach immortality."

#### **Heart Disease in the State of New York and Some Aspects of the recorded and resident Mortality from Tuberculosis in New York State in 1927 and 1928. J. V. De Porte, Ph.D. (Reprints from the *American Heart Journal*, Vol. V., No. 5, and the *American Review of Tuberculosis*, Vol. XXII, No. 1.)**

In these two papers Dr. De Porte corrects the crude figures of mortality supplied to the New York State Department of Health by the registration of causes of death.

In the first he observes that the deaths from heart disease form a very large and increasing percentage of all the deaths, and discusses whether this increase is real or merely an effect of some alteration in the method of collecting statistics.

He shows that the international rules for determining the cause of death when the doctor gives more than one, do actually credit heart disease with more deaths than would be the case if the opinion of the doctors registering the deaths were taken.

On the other hand, he gives the results of an investigation conducted under the auspices of the Department by a number of public-spirited physicians who made voluntary returns from their own practices. These confirmed the fact that an unexpectedly large proportion of the New York population suffers from heart disease. He concludes with an appeal for further co-operation.

The second paper applies to the tuberculosis mortality of New York State in 1927 and 1928 the methods formulated in an earlier investigation. In that study he had credited each death to the district in which the deceased lived, instead of to the district in which he died. This gets over the difficulty caused by deaths in health resorts and sanatoria, which is otherwise likely to conceal the truth. For example, the crude returns in each year made the mortality in the rural districts higher than in the urban areas apart from New York, and nearly as high as in New York itself, while the corrected rates show that there is a regular falling off in the

mortality as we go from New York to the rural districts. The detailed figures show that, roughly speaking, the larger the town the heavier the mortality from tuberculosis.

Various other conclusions are drawn as to the classes of the population which seek treatment away from home, and further investigations are foreshadowed on the basis of the corrected rates.

STUDENT.

### **Mental Growth of Low Grade Feeble-Minded.**

Lucile Moore. (Reprint from the *Training School Bulletin*, October 1929.)

Miss Moore, re-testing the I.Q. of fifty-one idiots after a period averaging three years, concludes that the mental growth of the idiot ceases comparatively early, possibly under ten years, as compared with normal mental development which is assumed to stop about sixteen, or a little earlier. This causes an apparent decrease of I.Q. as the idiot grows older. Mental deterioration also seems to set in early.

H. HARRIS.

### **Mental Treatment. Report of the Proceeding of the Conference held at Central Hall, Westminster, July 22-23, 1930.** London, 1930. Stationery Office. Pp. 131. Price 2s.

THIS conference was engaged in discussing the new Mental Treatment Act. The subjects dealt with were as follows: (1) Out-patient clinics; (2) Voluntary patients; (3) Temporary patients under Section 5 of the Act; (4) Research; and (5) After-care.

It is quite evident that the new Act will mean a very much larger expenditure of public money without necessarily reducing the incidence of hereditary insanity. This aspect was, however, only touched on by one speaker, Dr. Menzies, of Staffordshire, who, in a very able address, remarked, "I think when we get early discharge we shall have more procreation of the unfit. We must only trust that, in the generation to follow, the spread of education, eugenic and otherwise, not omitting sterilization, will improve the state of affairs, and that matters will right themselves."

The most hopeful section, therefore, was the one devoted to research, and it was disappointing to find in the speeches and discussion on the training and equipment of research workers, on the correlation between physical and mental trouble, etc., etc., no reference to heredity investigations.

This new Act will be of the greatest assistance to all those engaged in mental welfare work, enabling them to deal with borderland and unbalanced cases in a really constructive way, and with possibilities of financial assist-

ance which have hitherto been withheld. On the other hand, a large increase in "voluntary" and "temporary," rather than certified patients, has an element of danger, both actual and racial, which cannot be ignored.

E. I. C.

## **ON CATHOLICISM**

**Problems of Mental Deficiency: 1.—Inheritance of Mental Defect.** U. A. Hauber. Pp. 46.

**2.—Social Care of the Mentally Deficient.** Charles Bernstein. Pp. 38.

**3.—Moral Aspects of Sterilization.** J. A. Ryan. Pp. 28.

**4.—Eugenic Sterilization in the Laws of the States.** W. F. Montavon. Pp. 32.

Four pamphlets, unpriced, published by the National Catholic Welfare Conference, 1312 Massachusetts Avenue, Washington.

WHILE usually paying lip-service to the bases of eugenics, the Roman Catholics have hitherto distinguished themselves by jesuitical objections to its practice; or else they have refused as a body to declare their attitude, while reserving their right, as individuals, to attack this or that proposal as contrary to the laws of God. English Catholics, for instance, violently denounce sterilization, as contrary to morals and religion, though some in other countries approve it. Meanwhile, the Pope sits uneasily on the fence, awaiting the final issue, when he will doubtless approve the *fait accompli*. As Schiller writes (*Nineteenth Century*, October 1930): "The Pope is infallible in his pronouncements *ex cathedra* on matters of faith and morals; but this privilege is so dangerous to use that he never divulges *when* he is making such infallible pronouncements."

It is with a rather cynical interest, therefore, that one turns to these pamphlets. The best is the first, for its discussion of the biology of amentia is impartial and accurate, and the author is justified in saying that there is no sure evidence to show whether or not amentia has increased in the United States. But he clearly knows little of the English state of affairs, to which he refers (*cf.* his citation of Mott), and he has not read the recent *Report of the Mental Deficiency Committee*. Similarly, he is ignorant of R. A. Fisher's calculations, and is therefore unduly pessimistic of the rate at which amentia could be eliminated.

The second pamphlet is more characteristically Catholic, in that the writer starts with a fundamental religious reason against sterilization, but cloaks it under a variety of practical

arguments—all of the familiar type. Many of his criticisms, of course, are just, especially of early eugenic studies of the "Kallikak" type. But it is difficult to attach much weight to his references to the inheritance of amentia, while his estimates of the fertility of aments are based on absurdly small and unrepresentative statistics. (Readers will remember how strongly the findings of the Mental Deficiency Committee contrasted with those hitherto based only on a knowledge of the inmates of institutions.) He, too, quotes English circumstances without proper knowledge of the facts and literature. His most useful section is that on the American colonies for aments, though one should probably make allowance for his naturally glowing descriptions. Some of these colonies seem to be nearly or quite self-supporting, and all afford excellent training centres, whence many of their inmates are sent out to do comparatively useful jobs in the world—and, as is quite clear, to breed. Dr. Bernstein claims, however, that such good work renders sterilization unnecessary, while he calmly ignores the very considerable number of children which are *known* to have been born to aments thus 'socialized' (the follow-up system is not very good, and the numbers quoted are minima). To us such a system seems racially more dangerous than anything, since it materially assists survival without exercising any corresponding check on fertility. But *with* the supplementary safeguard of sterilization scarcely any system could be better.

The third pamphlet is a little surprising. After surveying (with a useful bibliography) the Catholic arguments for and against sterilization, the author concludes that unless and until the Pope delivers judgment,\* even compulsory sterilization is justifiable, provided it can be proved to be a genuine racial necessity. He then proceeds to show that it cannot be so proved—a task which is somewhat beyond his rather scanty and second-hand knowledge of the subject. But the admission of the moral principle is certainly surprising and will probably have considerable influence with the Catholic laity, who will henceforth feel entitled, now that the religious question is solved, to exercise their own and not their priests' judgments where facts and practical politics are concerned.

The last pamphlet is little more than the list implied by the title, with a few hostile comments thrown in. It is not, of course, as useful as the series of publications by Laughlin on the same subject.

E. M.

**Physical and Social Science.** (Huxley Memorial Lecture, 1930.) Graham Wallas. London, 1930. Macmillan. Pp. 16. Price 1s.

It has not infrequently occurred in the experience of this REVIEW that a book of 500 pages or more could be adequately dismissed in a paragraph of 200 words, while a brief lecture, 4,000 words in all, could not be properly reviewed in a notice much shorter than itself. The question seems to depend on what might be termed the content of mental vitamins.

The little lecture under discussion is of the latter class, inasmuch as this notice has already far exceeded the number of words which, by strict mathematics, it deserves. The interest of the REVIEW was aroused by the title, which seemed to promise a pregnant article on the very basis of eugenics—on, that is, the correlation which can, or should be, established between the facts of pure science and the immediate urgencies of our social state. In this, it is disappointing; but the incidental remarks are indirectly so suggestive and helpful as fully to justify the interest of our readers.

It has, for instance, been the aim of the REVIEW to expound the complex details of technical sciences in language comprehensible to the educated layman—thereby justifying the old title of the Eugenics Education Society—and the editorial principle has been that most sciences (with the probable exception of mathematics) can and should be thus translated, with, of course, the implied corollary that scientific jargon is either mental shorthand, which is justifiable, mental laziness, which is humanly excusable, or mental disability, which is—usual! Consequently, we read with the greatest joy, Professor Wallas's suggestion that the earnest research student's time would not be wasted if he occasionally tried "to turn the flaccid summaries of his note-books into something which an ordinary newspaper critic would accept as decent literature."

The criticism is so just that, if it were observed by but a small proportion of scientific men, there would be no need for either this *Society* or this REVIEW, because most laymen would be able to understand the significance of the work of our scientific laboratories. They cannot do so, as it is, because the immense majority of scientific men are either under the delusion of the suburban labourer, that the longest and most incomprehensible words are the best, or else are criminally careless of the vehicle of civilization—human speech. They also do not realize that good literature essentially lies, not in the arrangement and choice of words, but in the orderly arrangement of the thoughts they symbolize—not in oratory, but in explicit statement.

Professor Wallas dwells, with a serious irony, on this subject; but he also deals with other

\* As he has now done in his Encyclical—against sterilization.



matters of great indirect interest to us, notably on the organization of research, including its finance by universities. In particular he distinguishes between the useful apprenticeship served by so many great scientists of the past, when working as the personal assistants of others, and the system, of doubtful value, which has replaced it, and by which not one or two, but a score or more of students follow a set course under the ægis, but remote from the personality, of their scientific master.

The pamphlet, in short, is of only the remotest interest to practical eugenists, but it is a stimulating and most courteous challenge to the scientists on whom they depend.

E. M.

**Report of the Special Schools After-Care Sub-Committee.** City of Birmingham Education Committee. Birmingham, 1930. Pp. 19.

THIS little *Report*, one of the very best of its kind, gives as many details as possible of the families produced by ex-pupils of the special schools. They cannot, in the nature of the case, be of much use yet, since most of the families have been but recently begun, and the majority of the children are consequently too young for their mental condition to be judged. Neither fertility nor the inheritance of amentia can therefore be studied. It is already clear, however, that a grossly disproportionate number of the children of the aments are mentally or physically defective.

But this year the sub-Committee have rendered their *Report* even more valuable than before by giving details of the parentage and siblings of a few of their pupils. Five cases are quoted, and they possess between them—fourteen mentally afflicted relations, nine who are deaf or tuberculous, and seven who died young.

The sub-Committee rightly congratulate themselves on the high figure of 47 per cent. of their ex-pupils who are doing "remunerative work," and whose average weekly wage is 26s., since it is a great feat to have trained aments even thus far. But it is awful to think that these specially selected, 'educable' cases can only reach that pitch after an education costing between three and seven times what we spend on the same number of normal children. This average wage is much raised by a few who are earning really well—so well, indeed, that one cannot but question the original diagnosis of their mentality. Most of the rest, of course, are doing unskilled work for very low wages, and are probably no more useful than the

women who are given as unemployed, but who help at home.

The *Report* is one that should be read, since all the details are interesting.

**The Hereditary Factor in Asthma and Other Allergies.** George W. Bray. (Reprint from the *British Medical Journal*, March 1st, 1930.)

To give proper consideration to this important study would occupy an undue amount of space, and it can therefore only be briefly summarized.

Two hundred asthmatics were studied and 4,152 relatives were considered—giving the respectable average of twenty per patient. Unfortunately, no actual pedigrees are given, so we cannot tell whether the relatives were mainly ascendants or collaterals now living—frequently an important point in more ways than one. It appears, however, that the somewhat too facile conclusion of some previous investigators, that the allergic diathesis is inherited as a Mendelian dominant, is not borne out by Dr. Bray, who refers to "transmitters" not themselves allergic. This is in accordance with your reviewer's random experience, which leads him to suggest that at least two complementary factors are involved.

Some of the main conclusions are:

"(2) The greater the heredity, the earlier are symptoms manifested.

"(3) The earlier in life the individual becomes sensitive, the greater the tendency to multiple sensitization.

"(4) Asthma, hay fever, eczema, urticaria, angio-neurotic oedema, and migraine appear to be intimately correlated, and to be interchangeable.

"(5) A child born in a family with a pure hay fever lineage is much more likely to be affected with hay fever than with asthma, and vice versa.

"(6) Where several members of one family are affected, sensitization is not identical as regards the specific proteins, nor are the clinical types of allergy or the symptoms displayed in each type themselves identical in different members of the same family."

We hope to hear more of this work which, we have other reasons for believing, is an unusually thorough and hopeful study of a particularly interesting problem in genetics.

The work was done with a grant from the Asthma Research Council, whose *Report of Progress to May 31st, 1930*, is recommended to anyone interested in this curious group of complaints, rather than in their genetics.

E. M.

# PERIODICALS

## The Advancement of Science

**1930.**—This is the annual volume of the addresses delivered at the meeting of the British Association for the Advancement of Science, held this time at Bristol, September 3-10th, 1930.

While biology is well represented and psychology not neglected, the address of chief interest to eugenists is that of Professor P. M. Roxby on *The Scope and Aims of Human Geography*—a science of rapidly growing importance, with which eugenics has hitherto made too little contact. The address, aiming as it does to outline the boundaries of the science, is necessarily too diffuse to summarize here; but it makes interesting reading and suggests a variety of new approaches to old eugenic questions.

## American Journal of Physical Anthropology

**July-September 1930, Vol. XIV, Part 3.**—H. H. Newman discusses palmar dermatoglyphics in twins. He shows that reversal of asymmetry in the pattern is twice as frequent among those judged to be identical twins as it is among those judged to be fraternal twins. In fraternal twins there is only a slight correlation between asymmetry of palmar pattern and handedness and hair whorl; in identical twins the correlation is four times as great. Left-handed individuals usually have a dextral pattern on the left hand, so left-handedness can be identified in very early infancy.

H. L. Shapiro follows up Hrdlička's valuable book on *Old Americans* by a study of skulls from an old New York cemetery. Many of the burials were undated, but the author thinks they range from 1700, or earlier, well into the nineteenth century, and that they are of people of English origin with some Dutch admixture. The general phenomenon of increase of stature with the passing of the centuries is well illustrated.\* Cranially, these specimens are like

\* If this increase of stature during the last few centuries can be established for England—certain small and unscientific studies of old armour tend to support it—as well as for America, then the eugenic problem is even greater than is usually believed. Studies I have made (*Spectator*, Sept. 3rd and Oct. 8th, 1927, with unpublished material) give good reasons for thinking that English male stature has fallen at least an inch, with corresponding decreases in weight and chest-girth, since 1860; and it therefore looks as if the progress of centuries has been largely lost in about three generations.—E. M.

some of seventeenth-century Lowland Scots studied by Turner. They are moderately dolichocephalic (cran. index  $76.8 \pm .50$ ) and like the London seventeenth and eighteenth-century series, save that the cranial height is greater.

H. A. Cohn and J. W. Papez give a study of the divergences in the left and right sides of the brain, showing the greater length of the calcarine fissure and the greater size of the striate area on the right side in several cases. This is probably correlated with right visual predominance and right-handedness.

Forrest Clements demonstrates that there are racial differences in colour-blindness, and that its rarity among females is general. Todas are most affected of all peoples studied, and Lapps follow next; American Indians and American negroes are least affected. It seems probable, against accepted views, that a language poor in colour names has evolved among people poor in colour vision.

Mildred Trotter disposes of some statements about hair-form which have had too wide a currency.

L. T. Royster and M. E. Moriarty show that the *sella turcica* is larger in coloured than in white male, and also in the white than in coloured female children in U.S.A.

C. H. Danforth argues strongly against old theories of the special individuality of single vertebrae.

Reviews, mainly by the editor, are of much interest.

H. J. FLEURE.

## Annals of the American Academy of Political and Social Science

**May, 1930, Vol. CXLIX, Part 3.**—This volume contains a large number of articles, of which the following are of special interest:

*Eugenic Sterilization in the United States: Its Present Status.* By F. W. Brown.—This is an exceedingly useful summary of the various laws in force in the twenty-four different States which have adopted sterilization. The feeble-minded are specified in the provisions of every State, the insane included in all but one, and epileptics in eighteen. Certain types of criminals who are in these three categories may be sterilized in fourteen States, while moral degenerates and sexual perverts are added in eleven States, and two have a clause covering syphilitic inmates of institutions.

As regards numbers, California heads the list

with 9,298 cases, being two-thirds of the whole; Kansas coming next with 645 cases; and four States report no cases at all. A table is given of the proportions already dealt with in each category. In the fifteen States reporting, 6,246 operations were performed on the insane, 2,938 upon the feeble-minded, 55 upon epileptics, 16 upon criminals, and 5 upon persons suffering from other nervous disorders.

Insane males comprised 76 per cent, and the feeble-minded only 19 per cent. of all males sterilized; and amongst females 56 per cent. were insane and 42 per cent. feeble-minded. Among the insane persons sterilized, the males comprised 56 per cent, and the females 44 per cent., whereas amongst the feeble-minded, males made up 30 per cent. and females 70 per cent. The large excess of the insane amongst the sterilized is worth noting in view of the fact there appears to be some opposition to the clause including this category in our English sterilization Bill.

*Social Adjustment of the Feeble-minded.* By Florence Powdermaker.—The most interesting side of this study is the heredity of 432 cases of defective and delinquent inmates who had been five years in Letchworth Village Institution (U.S.A.). Amongst the 705 parents who were available for investigation, 13 per cent. tested feeble-minded and 22 per cent. more were considered mentally defective by the social investigator. Nearly 50 per cent. showed a definite mental and emotional defect, 13.5 per cent. were chronic alcoholics, 5 per cent. had police records, 9 per cent. had deserted their families, and 12 per cent. were flagrantly immoral. A history of 488 brothers and sisters was obtained, showing 34 per cent. mentally defective, 29 per cent. retarded or border-line, and 8 per cent. delinquent.

*Community Control of the Feeble-minded.* By Edgar A. Doll.—Extensive survey in America has demonstrated that the number of defectives has been hitherto much under-estimated, in that 10 per thousand is the lowest computation. During the American Army tests, 12 per thousand were rejected on account of mental deficiency, and amongst school children the figure is as high as 20 per thousand. In America no State has been able to make institutional provision for more than one-tenth of the total number of the feeble-minded, and therefore the vast majority are at large in the community. In this article the writer classifies the various social types with suggestions for dealing with them from the standpoint of institutional, community, and State welfare. He is in favour of sterilization, but considers that institutional care should have the dominant place, and be the point of departure for developing an adequate programme.

E. I. C.

## Archiv der Julius Klaus-Stiftung

**Vol. IV, Parts 3 and 4, 1929.**—Professor Otto Schlaginhaufen gives an extensive anthropometric account of the Micronesian people of the Kapingamarangi or Greenwich Islands (in the Caroline group), with numerous illustrations. These islands are very isolated, between Micronesia on the north and Melanesia on the south. The author visited them in 1908 and made a study of thirty-five men. The tables of measurements include body size, arm span, various head indices, skin and eye colour, form and colour of the hair. This represents a careful anthropological study, with much detail. The author points out that the so-called Mongolian spot or fleck is not a sign of Polynesian blood as formerly supposed. The people are regarded as of Micronesian or Polynesian origin, probably a mixture of both, their stature and relatively light-brown eyes indicating Polynesian blood, and they speak a Polynesian idiom.

R. Huser has made an anatomical investigation of the wild European boar, to determine the influence of its domestication. He gives an account of its paleontology and early history. Karl Ammam contributes a detailed anatomical study of its eye from the same point of view.

This number also contains an investigation of the growth of school children in Zürich, by Dr. Christian Göpfert. The data are biometrically treated, with numerous correlation tables and coefficients.

R. R. GATES.

## Archiv für Rassen- und Gesellschafts-Biologie

**August 1930, Vol. 24.**—This number is a special birthday offering to its founder and editor, Dr. Alfred Ploetz, from his friends and admirers, many of whom were enlisted in the cause of eugenic research by Dr. Ploetz's enthusiasm.

Dr. Alfred Ploetz, whose seventieth birthday is thus commemorated, has been for twenty years the most influential pioneer of eugenics in Germany. In 1904 he founded a journal devoted to studies in racial and social biology, and in the following year he founded the Society for Race Hygiene. Numbers of professorships and institutions since established in Munich, Berlin-Dahlem, Jena, and elsewhere, for the study of anthropology, human heredity, eugenics, and kindred topics, owe their existence to his inspiration.

His influence was that of teacher and prophet and cannot be measured by his relatively few publications. In 1895 he published his *Principles of a Practical Eugenic Policy*, and he has

written various articles in periodicals, such as "The Relation of Eugenics to Ethics," "The Relation of Eugenics to Party Politics," "Alcohol and the Race." His soul, however, has been not in academic learning for its own sake, still less in the carving for himself of a successful career, but in the promotion of a practical eugenic policy. His actual research has been devoted to ascertaining whether external influences (such as alcohol) can affect inherited qualities. He often has a thousand rabbits at a time under observation. His dream is of a (far-distant) future in which man will have learnt how to control variation for his own ends.

1.—In a brief introductory note Dr. Eugen Fischer reviews the activities of the German Society for Race Hygiene during quarter of a century.

2.—Professor Walter Scheidt, of Hamburg, discusses the Psychological and Biological tasks of Anthropology in relation to Civilization.

3.—Dr. Agnes Bluhm contributes a most interesting and fully-documented article on "Alcohol and Posterity." Before embarking on this special piece of investigation Dr. Agnes Bluhm carried out various preliminary experiments over a period of nine months to determine the methods she proposed to pursue. Her *corpus vile* has been the albino domestic mouse; 32,300 individuals have been handled and observed; the greatest care has been exercised to ensure that each animal experimented on has had an opposite number from the same litter amongst the controls, and that the environment of both groups should be identical. The dosage was effected by means of injections under the skin of the back; excessive doses were avoided, since they reduce sexual desire; no mouse under four months was dosed at all, lest its death should be precipitated or its growth retarded.

The mice were bred in two groups, the first of which was subjected to regular alcoholism, the second of which was free from alcohol. They were bred thus to the eighth generation, the interest concentrating on the ultimate progeny of 114 pairs of each type. The points then noted were:

- 1.—The different ages at death.
- 2.—The growth, i.e. weight and development of visible organs (ears, eyes, teeth, etc.).
- 3.—Fecundity and fertility.
- 4.—Any deformity or degeneracy.

As a result of these experiments, Dr. Agnes Bluhm feels entitled to claim that she has established a probability bordering on certainty that alcoholism causes hereditary damage in the offspring of mice. This careful record of research is supported by twenty-eight tables and twenty-five diagrams.

Incidentally many side-lights are thrown upon

mouse life, and the curious fact is established that the offspring of an alcoholic female by a normal male have a better chance of surviving the suckling period than the offspring of a normal female by an alcoholic male.

4.—The contribution of Dr. G. P. Frets, of Rotterdam, consists of a summary of his new book, *Alcohol and Other Germ Poisons*, published in English at The Hague in 1930.

5.—Professor Charles Davenport, of New York, contributes a short paper on "The Influence of Latitude on the Size of the Litter."

6.—Professor Hermann Lundborg, of Uppsala, who is well known for his researches on problems connected with the Nomad Lapps of Sweden, supports by photographs a study of the shape of the lower jaw in human hybrids.

7.—A deeply interesting study of the physical, mental and other characteristics of the hybrid population of the Dutch East Indies is from the pen of Professor Ernst Rodenwaldt, of Soerabaya. Professor Rodenwaldt includes language and social qualities in his survey, and touches *en passant* on many topics of much importance to those white races whose sons live and work among coloured 'natives.' This is an illuminating and thought-provoking article.

8.—Professor Th. Mollison, Director of the Anthropological Institute of Munich, writes on "Orthogenesis" and its importance for the human race.

9.—Professor Ludwig Plate, Director of the Zoological Institute of the University of Jena, in a learned article of thirty-four pages, raises three points in connection with Goldschmidt's theories of heredity: the determination of sex in *Lymantria*; the nature of the gene; and the inheritance of acquired characters.

10.—Professor Heinrich Reichel, of Vienna, in a highly technical article of sixteen pages, treats of the handling of Mass Statistics and the Mean Error of Correlation Coefficients.

11.—Professor Hermann Werner Siemens, President of the University Hospital for Diseases of the Skin in Leiden, offers some practical and helpful suggestions for genealogical research, methods of card-indexing, storing documents, etc.

12.—Dr. M. A. van Herwerden, of the University of Utrecht, in collaboration with Drs. Nyland and Schryver, reports the results of researches extending over five years and based on the examination of some 30,000 human subjects. She assigned each subject to his blood-group and at the same time recorded his cephalic index, colour of eyes, colour of hair, and racial origin (noting foreign admixture). She finds no relation between the blood-group and the cephalic index, but an indication of a possible relation (which further research might establish or refute) between dark eyes and blood-group B.

13.—Professor Günther Just, of Greifswald, devotes eighteen pages to the question of multiple allelomorphism in man, illustrating his remarks by reference to the incidence of such hereditary diseases as spastic spinal paralysis, hæmophilia, Huntingdon's disease, and so on.

14.—Professor Ernst Rüdin, of Munich, discusses the practical results of psychiatric research on questions of heredity. He is the Director of the genealogical and demographical department of the German Institute for Psychiatric Research in Munich, an institute which has devoted its energies in recent decades to the methods of empiric prognosis and has thereby achieved results of the highest practical value in treatment and prevention. Professor Rüdin emphasizes the extreme danger of the community from the marriage of carriers into sound stocks. He concludes an interesting paper with a paragraph on positive and negative eugenics—"The protection of the Weak' is the accepted duty of all humane people; we must, however, unquestionably call a halt before 'the procreation of the Weak'; conversely it is the *nobile officium* of the strong, the healthy, the high-minded, and the gifted to ensure the adequate propagation of their kind."

15.—Dr. O. von Verschuer examines the burden of hereditary incapacity resting on the German people. He investigates the various sources from which statistics can be obtained and then directs his attention to individual hereditary diseases: Deaf-mutism, epilepsy, dementia præcox, feeble-mindedness, etc. Allowing for the inadequacy of existing statistics, he reckons that in Germany a minimum of five per mille are severely smitten by hereditary disease, and urges the immediate need of enlightened eugenic measures.

16.—Dr. Hermann Muckermann, Assistant Director of the Institute for Anthropology, Human Heredity, and Eugenics, Berlin-Dahlem, conducts an inquiry into the "Differential Birthrate." He obtained replies to a questionnaire from 3,947 university and college professors. Amongst these, 10 per cent. were unmarried, and 15 per cent. of marriages were childless. The general average worked out at 2.33 surviving children per marriage. The average age at marriage was 32.7 for the husband, and 25.7 for the wife. Taking similar figures from two unspoiled, healthy villages, he found the average there to be 6.5 children per marriage.

17.—Dr. Paul Popenoe, Director of the Institute of Family Relations, Los Angeles, California, writes a short article on "The Fecundity of the Feeble-minded." He calls attention to the fact that the feeble-minded male constitutes a lesser danger to the community than the female. The chances of a feeble-minded child being the product of a feeble-minded mother

are ten times as great as those of its being the offspring of a feeble-minded father. The reason is, probably, that the latter has not the vigour or aggressiveness necessary to play the male role, whereas the feeble-minded girl has passivity enough, and to spare, to fit her for the female part. Roughly, the fertility of feeble-minded stock is at least twice that of parents who send their children to college.

18.—Professor Johannes Lange, of Breslau, Director of the Psychiatric and Nerve Clinic of the University, contributes "Researches in a Slum Area." This is an illuminating study of a group of families, "a-social and anti-social psychopaths of unheard-of fertility," who live wholly on the charity of the community, exploiting it with diligent ingenuity. "What we need is the possibility of preventing the procreation of such anti-social individuals."

19.—Dr. Hans Luxenburger, of Munich, writes on "The Importance of Mental Hygiene for Hereditary Disease." In this interesting article Dr. Luxenburger confines himself to a discussion of schizophrenia and the modern methods of treatment by which its severity can be greatly mitigated. He even looks forward to a future, though possibly far distant, in which enlightened prophylaxis will greatly postpone the onset, or conceivably even prevent it. The gain to the individual sufferer needs no emphasis, but Dr. Luxenburger calls attention to the grave danger therein inherent. He urges that all cases, where schizophrenia is known or suspected to be latent, should be considered from the eugenic standpoint, and that measures should be taken to prevent the afflicted individual from passing on his disability to the next generation. (He favours sterilization, but does not here enlarge upon it.)

20.—Professor Harry Federley, of Helsingfors, gives a brief account of a new method of eugenic propaganda which is being successfully tried amongst the Swedish population of Finland. The Swedish "Society for the Improvement of National Health" offers rewards to mothers of families where

- (a) both parents are of Swedish stock;
- (b) both of healthy stock;
- (c) there are four children between four and seventeen, healthy in mind and body and well-cared-for.

Cases are carefully and impartially scrutinized, and the distribution of awards in each district is made the occasion of a celebration, a main feature of which is eugenic propaganda.

These awards have been made yearly since 1920 (with two exceptions). There are in all six districts, and as many as 400 entries have been received from one of the larger ones in one year. The total awards in one year have never exceeded 231. The actual sums awarded have

varied according to the fortunes of the Society, but have never exceeded about five guineas nor fallen below about two pounds, ten shillings.

21.—The opposition offered in Norway to the campaign against venereal disease forms the subject of an interesting article by Professor Jon Alfred Mjøen, of Oslo. An instructive table of comparative statistics shows the figures for Sweden (1919-24), with enlightened treatment, contrasted with those for Norway, with a policy of *laissez aller*. Since 1915, however, Norway has made some forward progress, including compulsory medical examination before marriage. Other measures are in contemplation, one for providing every citizen with a biological "identification book" and another for the eugenic regulation of immigration. If this measure becomes law, the right to immigrate may be withheld on economic grounds, and also from

- (a) all mentally defective persons;
- (b) all venereally infective persons;
- (c) chronic alcoholics;
- (d) people who have served a six-months' (or longer) sentence for non-political reasons;
- (e) the insane (of any variety);
- (f) those who have no citizen rights elsewhere.

Propaganda for the segregation or sterilization of certain types is being carried on.

22.—Dr. F. C. S. Schiller, of Oxford, writes on "Eugenics as a Moral Ideal." The most important goal that rational humanitarianism can set itself is to improve on Nature's methods, and scientifically, quickly, painlessly, and thoroughly to eliminate undesirable elements in the population. Unless we are to confess our present inferiority to the ape-like ancestors from whom man was evolved, we must believe that positive eugenics can help us to call into existence a loftier human race. Religion is losing its grip; human beings need some ideal to strive for; enlightened eugenics can supply it.

23.—Dr. Karl Valentin Müller, of Dresden, writes on the relations between the "Social Labour Movement" and eugenics. The Social Labour Movement has concentrated on environment as the source of all evil. "Where the struggle for mere existence exhausts all efforts, where anxiety and housing-misery eat up all energy and creative impulse, where there is no possibility of a healthy upbringing for children, the struggle to attain better environment, not only seems, but is the one vital task of the reformer." Eugenics used, therefore, to be suspect as a dogma of the wealthy.

The two fields, however, are not opposed, but complementary. Eugenics has to do with the selection of the best seed and the weeding out of noxious herbs, while the Social Labour

Movement endeavours to secure the most favourable environment for the growth of the seedlings. The "suicidal birth rate" has spread from the leading classes down to the best and most intelligent of the working classes, and it behoves every intelligent Labour or Socialist Movement to evolve a practical eugenic policy before it is too late.

24.—Dr. Kara Lenz von Borries, of Herrsching, writing of "The importance of Biology for Political Economy," introduces an interesting discussion on "human economy" (a) under the "Liberal Capitalism" of the nineteenth century, before humanitarian legislation to protect the poor, and before family limitation by the wealthy; (b) under the "Limited Capitalism" of the twentieth century, with the differential birth rate and the spread of dysgenic humanitarianism; (c) under the Socialism of the future. If the race is to be saved from decay, immediate steps must be taken to promote eugenic measures and inhibit dysgenic tendencies in the life of the nation.

25.—Professor Fritz Lenz, of Munich, takes as his theme "The Possibilities and Limitations of the Distribution of Family Burdens by Tax Reform." He offers twenty-two pages of careful calculations and detailed schemes for such an equalization by raising the rates of taxation for the unmarried and the childless, by granting rebates to parents for each child, and further, by the total remission of death duties in cases of three or more surviving children. Professor Lenz discusses alternative schemes favoured by Burgdörfer and Grotjahn, including family insurance for parents.

E. O. LORIMER.

## Bibliographia Genetica

**Vol. VI, pp. 91-121, 1930.**—*Ueber die Vererbung der Neurotischen Muskelatrophie Charcot-Marie*. By Professor Wilhelm Weitz.—This account of families showing the Charcot-Marie type of muscular atrophy nicely illustrates the difficulties which beset the path of the simple mendelist when he comes to pedigrees of nervous defect in man. Lissi's pedigree clearly indicates a straightforward dominant factor; Herringham's equally obviously points to a sex-limited recessive, while Bertollotti's and Steinthal's cases must be ordinary recessives; and last, but not least, come the many cases which are just put down as "spontaneous mutations."

The reasons for this confusion are not far to seek; diagnosis is by no means certain. On the one hand, the enthusiastic constructor of pedigree charts blackens in the circle on very slender hearsay; on the other, persons dying young are recorded as normals, when, had they lived longer they might have shown symptoms

of the disease, especially when it is remembered that this particular affliction sometimes appears for the first time in persons over forty years of age. Moreover, even if this disease is "caused" by a single factor, the background of other factors which affect the working of this factor varies from person to person. Eugenists must always support every effort to unravel the genetics of nervous defect in the human subject; but, in the meantime while uncertainty prevails, one must be careful not to go beyond the statement that defect runs in families and above all to avoid giving the impression that eugenics stands or falls by the applicability of simple mendelism to the human subject.

M. S. PRASE.

*The Genetics of the Horse.* By F. A. E. Crew and A. D. Buchanan Smith.—This is a further addition to the series of comprehensive monographs on the domestic animals that have issued from the Animal Breeding Research Department of Edinburgh University—or, as the Dutch printer delightfully puts it, "Animal Bruding Research Department." With its 200 odd references and tireless solidity, it will remain for a long time the standard work on the subject. But it will also serve another and most useful purpose in demonstrating the immense complexity now reached by Mendelian genetics, and therefore the hopeless inaccuracy of attempting to speak of most characters as simple Mendelian dominants or recessives. Coat colour, for instance, should be a simple matter—and, indeed, that is why the early Mendelians did so much work on it—but there are here given ten different and well-recognized colours (without mentioning sub-divisions or disputed colours), and exactly one of the ten, chestnut, always breeds true when mated to its like. Hence the Suffolk Punch is the only breed which preserves a comparative uniformity: the word comparative is used advisedly, since even that colour can range from light to dark and include Sorrel and liver.

Space makes it quite impossible to give the assortment which can be produced by mating the other colours, either to themselves or to each other, or to summarize the genetic formulæ discussed by the authors. Besides chestnut, only albino, which is not a colour but a lack of colour, breeds true, and it thereby illustrates a somewhat neglected aspect. Simple Mendelism, as it was first known, was the result of experimenting with the comparative simplicity of abnormalities or normal deficiencies. Lack of colour, whether due to absence of pigment or to a dominant inhibitor, is a simple factor and is likely to produce a simple ratio if bred to colour. But colour itself is the final product of an indefinite number of interacting genetic and physiological factors, whose be-

haviour in breeding may ring as many changes as a peal of eight bells. Fortunately, the eugenist is mainly concerned with human deficiencies, roughly comparable with the albino horse, and may therefore reasonably expect to control and restrict their breeding—but, though mental deficiency may be simple, mental normality is not, and that happy combination of normal factors which we label 'genius' is likely to be as complex as a fully orchestrated score.

The bulk of this monograph is devoted to colour and the further complexities of markings; and pathological characters are not neglected. But, in illustration of what has just been written, the genetics of speed, health, of normality generally, are of necessity completely neglected; those characters still have to be bred by rule-of-thumb, in the light of Mendelian common sense. But then, as few people realize, we know so little of the genetics of domestic animals compared with those of man.

The ass, the mule, the zebra, and the 'zebroid' hybrids are also mentioned.

E. M.

## British Medical Journal

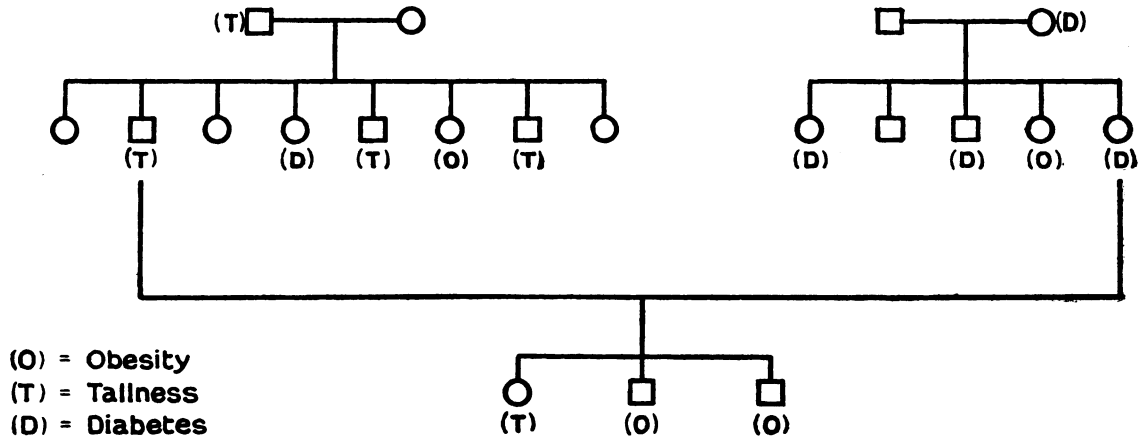
**October 11th, 1930.**—*Mental Deficiency and Sterilization.*—The writer of the leading article quotes the following paragraph from the *Report of the Board of Control* as exactly stating the position taken up by the British Medical Journal: "Sterilization will not solve the many problems of the prevention of mental defect; indeed, it is doubtful whether it will appreciably reduce its incidence. In any case, it would be absurd to suggest that its adoption would obviate the need for the institutional care and training of those defectives whose social inadaptability makes it impossible to leave them at large. But there are cases in which it might be advantageous."\*

**November 29th.**—*A Family Tendency to Tallness of Stature, Obesity and Diabetes.*—Disturbance of the anterior lobe of the pituitary gland with or without tumour produces Fröhlich's syndrome—obesity, genital hypoplasia, and lack of growth. Increased functional activity of the anterior lobe, before puberty, leads to tall stature and gigantism, and to acromegaly in adult life. The reverse action produces infantilism, genital hypoplasia, amenorrhœa, and sterility. Over-activity of the posterior lobe may cause decreased sugar tolerance and glycosuria, and under-activity increased tolerance and obesity.

A family tree is recorded by Dr. R. S. Allison, showing a tendency to such endocrine disorders (overleaf).

A. A. E. NEWTH.

\* See pp. 213 and 214 of last October's REVIEW.



## Economic Journal

December, 1929, Vol. XXXIX, No. 156.—*Interchange between Social Classes.* By Morris Ginsberg.—It was some time ago that Professor Ginsberg first read a brief paper to this *Society* on his work; but it was only recently that our attention was called to this full account of the completed study, one of considerable importance to eugenics for two reasons:

1.—It is frequently assumed that if the social classes are comparatively stable, with little interchange, then (a) The stability is due to genetic differences between the classes; or (b) on the contrary, it is the possession or lack of economic capital which preserves the *status quo*.

2.—It is equally frequently assumed that inter-class movement is considerable, and that the inference therefore is (a) that the worst sink and the best rise (to become infertile, so that the nation is drained of its talent, which is yearly more concentrated in the 'upper' classes); or alternatively (b) that this mobility only illustrates the importance of opportunity. Given that opportunity, the 'lower' classes would be as capable as the 'upper' of producing talent, the 'upper' as capable as the lower of producing degenerates.

In any case, therefore, you pays your money and you takes your choice, the choice being all the more exhilaratingly wide, inasmuch as there have not hitherto been any more definite data than vague surmises as to the degree of social mobility (in a population of forty millions the existence of working men's sons in the Cabinet is scarcely relevant, since *unusual* qualities have in all ages made their mark). Professor Ginsberg's study is really the first of its kind.

He commenced by sending out a questionnaire to 2,844 men and 931 women, of all classes, asking for the occupational status of themselves, their brothers and sisters, fathers, and paternal and maternal grandfathers; and he classified the occupations into three groups:

- 1.—Professional, 'upper' employer, and 'upper' working on own account.
- 2.—'Lower' employer, 'lower' on own account, and salaried.
- 3.—Wage-earners, skilled, semi-skilled, and unskilled.

Classes 1 and 2 roughly correspond to the same numbers in the Census classification, while Class 3 comprehends the Census numbers 3, 4, and 5.

It is impossible here to give more than his summary tables; and the article itself, with its other more detailed tables, should certainly be consulted by anyone at all interested in a subject so important.

### UPWARD MOVEMENT

	From 3 to 1	From 2 to 1	From 3 to 2
Present generation and fathers ... ..	12	55	40
Fathers and grandfathers	6	45	24
Present generation and grandfathers ...	18	57	36

(Table continued on next page.)



## DOWNWARD MOVEMENT

	From 1 to 3	From 1 to 2	From 2 to 3
Present generation and fathers ... ..	0.6	7	27
Fathers and grandfathers	1.5	7	37
Present generation and grandfathers ...	1.4	7	35

Following this is a table of the proportions remaining in their own classes :

	1	2	3
Present generation and fathers ... ..	33	52	72
Fathers and grandfathers	48	68	61
Present generation and grandfathers ...	23	56	62

Professor Ginsberg also quotes the percentage of the occupied population of the various classes, as given by the Registrar-General.

All classes	I	II	III	IV	V
100	2.93	20.35	43.47	20.45	13.40

"Upon the whole," he continues, "the following conclusions suggest themselves. There is evidence of upward mobility from Class III to Class I, and this seems to be increasing as compared with the past generation. This does not bear out the view that the process of recruiting talent from the lower classes to fill the gaps in the upper has reached a point of exhaustion (cf. McDougall, *National Welfare*, p. 162). Further, on the evidence before us there is very little downward mobility from I to III, and this is not in harmony with the suggestion often made that the lower classes are recruited sensibly from the failures of the upper (cf. Sorokin, *Social Mobility*, p. 457). Bearing in mind the proportion of the classes in the occupied population, it is indeed evident that the ladder can only lift relatively small numbers. There seems thus little ground for the hypothesis of 'drainage' and no indication that the reserves of ability in the lower classes are being depleted."

It is difficult yet to agree with this main tentative conclusion, since the data are quite in-

capable of indicating whether the talent of the 'lower' classes has or has not been considerably exhausted by recruitment—unless one makes the big assumption, perhaps reasonable but certainly not scientifically warranted, that those classes started with a large reserve of talent, and the even bigger assumption that the large development of the educational system has been ineffective in encouraging social promotion. But it certainly seems as if the downward 'ladder' does not carry as much traffic as it ought—unless, again, one makes another large assumption, that there are only a few angels to fall.

There are two further points which will need elucidation before this or similar studies can warrant definite conclusions. Firstly, we must know what relative proportions of the population the different classes constituted in the past, as well as in the present. Secondly, Professor Ginsberg's study only goes back three generations; while there is some reason to believe that we are now settling down, as it were, after a period of much greater mobility, the first few decades of the nineteenth century. The considerable traffic up and down the ladder during the industrial revolution, which certainly created the power if not also the numbers of the middle classes, may have largely drained the 'upper' and 'lower' classes of their degenerates and talented men, respectively.

Two supplementary studies are included here; one of the fathers of members of two Inns of Court, and the other derived from Professor Bowley's surveys of wage-earning populations. Generally, they tend to confirm the principal study.

E. M.

## Genetics

**November 1930, Vol. XV, No. 6.**—*Reverse Mutations Caused by X-rays.*—The whole of this number (pp. 495-577) is occupied by a paper by J. T. Patterson and H. J. Muller under the title, "Are progressive mutations produced by X-rays?" The question at issue is a more important one than is immediately suggested by the title, and well worthy of the great amount of labour which has been devoted to its elucidation. Since the effect of X-rays in producing mutations was first established, it has been rather frequently suggested that such mutations consisted only of losses, or of the destruction of portions of the living material of the nucleus. This view might be regarded as a revival, in respect of the mutations induced by X-rays, of Punnett's hypothesis that recessive mutations occurring naturally were due simply to the loss or "absence" of some gene "present" before the mutation occurred. Although in respect of

natural mutations this view is now very generally abandoned, it was still possible that the effect of a physically violent treatment, such as raying, might be wholly destructive. The importance of the present paper is to show that this is certainly not the case.

The first five chapters deal with phenomena which, without being decisive, display the difficulties and improbabilities in which the theory of loss is involved. They make extremely intricate reading, largely owing to the complicated subsidiary hypotheses in which the theory of loss is involved, if it is to escape each difficulty in turn. The most striking of these preliminary difficulties are (a) the production of multiple allelomorphs, that is of different mutations of the same gene, by raying, and (b) an induced mutation in the fourth chromosome, visibly different from the known effects of the entire loss of that chromosome.

The remaining nine chapters are principally concerned with the history of the attempt to obtain the only absolutely decisive evidence which seems possible, namely the production by X-rays of mutations in two opposite directions, one of which exactly neutralizes the genetic effects of the other. After an initial failure with *white eyes*, which seems to have, even under X-ray treatment, an extremely low mutation rate back to the normal red, success was obtained in the two loci known as *forked* and *scute*.

In all, seven heritable mutations from the mutant *forked* back to normal were obtained. In each case full cross-over tests showed that the mutation was in the right locus, and was not a dominant suppressor located elsewhere. By subjecting the normal genes so obtained to further raying two heritable *forked* mutations were obtained, in addition to three obtained previously from unmutated normal genes. The extent of the experiments by which these results were established may be judged from the fact that the series last mentioned had about 46,000 controls. Indeed, even with the X-ray treatment, the rate of mutation of a particular locus seems seldom to exceed about 1 in 5,000.

Since if a mutation may be regarded as a loss, its reversal must be regarded as a gain, the case for claiming that the induced mutations are all simple losses is decisively disproved, and there is little excuse for regarding either change as being of so simple a nature.

Since many of the recessive mutations are clearly disadvantageous, it is interesting to note that the mutation from the recessive *forked* to the dominant normal form, although caused by X-rays, was accompanied by earlier emergence than the *forked* flies in the same culture. The induced mutation thus seems to have restored the vigour characteristic of the normal fly.

The authors recognize clearly that in a highly

adapted organism mutations which are progressive, in the sense of improving its adaptation, must be exceedingly rare. They are only concerned to show that under X-ray treatment, and by inference in Nature, mutations occur which are chemically of the same kind as those by which progressive adaptations are obtained.

R. A. FISHER.

## Journal of Applied Psychology

**June, 1930, Vol. XIV, No. 3.**—*Mental Development in the Children of Delinquent Girls.* By E. W. Martz.—A most irritating article this, because the author possesses useful and interesting material, the significance of which he has neither presented nor grasped. The important feature of these girls is not their delinquency, but their amentia, which the title omits; while the details of the mental condition of their children, brought up in the institution, are rendered valueless because no individual pedigrees are given (though in the possession of the author), nor is any correlation presented between mother and child! Incidentally, the article reveals the weakness of the mental tests employed, since the children's intelligence quotients, which should be constant, tend to rise with advancing years. Their average I.Q. was also found to be higher than that of the mothers—which may, of course, be the consequence of many of them having had normal fathers, but may equally well be the result of employing different methods of assessing the intelligence of mothers and children.

E. M.

## Journal of Criminal Law and Criminology

**August 1930, Vol. XXI, No. 2.**—*The Relation of Mental Disease to Crime.* By Ellen Pilcher.—This is an account of a study made of over 600 inmates of the State Hospital for the Criminal Insane at Ionia, Michigan, amplified by a further survey of four similar hospitals. The main object was to discover which types of mental disease were most frequently associated with crime and with what particular offences. The author concludes:

"The fourteen forms of mental diseases as studied in this survey show that Dementia Præcox contributes *most* to crime and in the total survey, Mental Deficiency with Psychoses ranks as second. Paranoid Condition, Alcoholic Psychoses, Psychopathic Personality with Psychoses, and Manic-depressive Psychoses follow closely in the order given, while Epileptic Psychoses, Senile Dementia, General Paralysis, Cerebral Syphilis, Ence-

phalitis Lethargica, Cerebral Arteriosclerosis and Huntington's Chorea with Psychoses as given in order, contribute least to crime, though in many cases the crimes committed are of the most serious types. However, we find patients of all types of mental disease represented in the five main groups of crime.

"As for crimes committed by insane criminals, the group of Crimes Against the Person leads, 41 per cent.; Minor Crimes comes second, 29 per cent.; Crimes of Acquisition third, 20 per cent.; Crimes of Sex fourth, 9 per cent.; Crimes of Arson fifth, 2 per cent."

Since the persons studied were in the first place chosen because they were both criminals and mentally afflicted, the data cannot, of course, yield any information as to whether mental disease is more associated than normality with criminal tendencies. Other American studies have yielded conflicting answers to this question, some indicating that most criminals are characterized by mental abnormality, and others suggesting that there is little or no difference in that respect between a group of criminals and the normal population. In England, Goring's famous study revealed that criminals, while in no way belonging to the "criminal type" of Lombroso, are mentally and physically below the normal standard. Later work has generally tended to confirm this conclusion.

E. M.

## The Nineteenth Century

It is with just the slightest touch of jealousy that we here notice Dr. F. C. S. Schiller's three articles on "Eugenic Reform," since their genesis was a discussion with Dr. Schiller on a similar series for *this REVIEW*, in continuation of his first "Eugenic Reform: 1—Of the House of Lords," which appeared in our issue of January 1929.

We gave way, however, with the best grace we could muster to Dr. Schiller's compelling plea that his articles, howsoever inspired, would do most service by reaching a larger non-eugenic audience. Hence the *Nineteenth Century* prints three "Reform" articles—"1. Of the Plutocracy" (July 1930). "2. Of the Democracy" (September). "3. Of the Intelligentsia" (October).

It is difficult to say which is the best of the four—including, that is, the real first, which we had the honour of publishing. It, while the least witty and Schillerian, certainly contained the most practicable proposals—if only because the peerage is more amenable than most insti-

tutions to such suggestions—and the one regret was that Dr. Schiller should have abandoned his earliest and most intriguing suggestion of a peerage which lost rank, by one step in each generation, unless its holder's record gave good reason for its maintenance. At the other end of the scale is the last of the series, on the Intelligentsia, the searching, scathing wit of which is exquisitely entertaining. (Dr. Schiller and the Dean of St. Paul's stand almost alone among eugenists in their ability to combine caustic with constructive criticism, as well as in their facility for rendering the heaviest subjects readable.) There is only one flaw to find in "The Intelligentsia," and that is the omission of the remark that the term has very little to do with intelligence. Dr. Schiller defines this curious and largely youthful group as those whose job is mainly with ideas—ideas good or bad, but chiefly at variance with accepted conventions—and gives up hope of persuading them, and them alone, to take part in the arduous work of racial regeneration.

Among the most acute of his comments is his correlation of the intelligentsia with the 'pure science' group, which is "too deeply corroded with 'scientific caution' to intervene in social questions." The whole of this long passage should be read by the reader who wishes to chuckle at the expense of his fellow beings; but its cream lies in Dr. Schiller's delicate implication that the pure, immaculate scientist is largely actuated by that youthful conceit—in the widest and most vernacular sense of the word—which once caused the undergraduate to swear by Aubrey Beardsley and Oscar Wilde, and which now persuades him to declare the Sitwells, his predecessor's gods, to be *vieux jeux*. But Dr. Schiller adds, "It is for them a great simplification of life not to trouble about the social consequences of the ideas they are engaged in elaborating and promulgating. Thus it is part of the charm of the scientific life that the 'pure scientist' has no concern with practical matters"—in other words, he shirks, on the principle of safety first, being a citizen as well as a specialist.

It would be easy to write an essay either for or against Dr. Schiller's arguments; still easier, in the manner of the daily Press, to quote his most spicy sayings—and he is here exceptionally quotable. But it is very difficult to review him without injustice. His sense goes into every sentence; and a concise abstract would be merely the cocktail without the gin. The gin I have already tried to suggest, and it is mostly contained in the analysis of the three groups as they are to-day: the rest of the cocktail's ingredients may be most comprehensively summarized under the one head of the Need for Stimulus. It is to the development of appropriate stimuli, very far from mainly financial,

that he looks for reforming the groups with which he deals—with the peerage, the stimulus of preserving its ancient status and power; with the plutocracy, the incitement of what it has hitherto lacked, a job worth doing; with democracy, the possible abandonment of itself (!). The intelligentsia he gives up as hopeless [though has not eugenics owed its very start largely to the 'cussid' support of precisely that group?] and hitches his wagon instead to the double star of the medical and teaching professions.

Education of a stimulating order forms a large part of his programme for inciting the plutocracy to effect its own reform. He does not advocate the education "of those who are easy to educate, who crave for it and feel they need it, that is, of the poor, but . . . the education of those who are hard to educate, who do not want it and resent it, that is, of the rich. And I know that this is a terribly arduous task."

The four main points of this education would be (1) its selective character, in that it would only be given to those who could make use of it, though its ideals would permeate everywhere; (2) its spirit of looking forward to the future, instead of back to the past; (3) it would be competitive; (4) it would be made the means of building up an aristocracy of ability that would look upon reproduction as one of its main duties to society.

Dr. Schiller looks to the twin menaces of over-population and the proliferation of defectives (combined with the fear of cheap labour competition from the East) to stimulate Democracy into adopting eugenics. Failing that, " . . . not all democrats are utter fools. . . . The more intelligent would abandon democracy

when they saw that it was unalterably opposed to human progress."

E. M.

### Revue Anthropologique

July to September 1930, Vol. XIV, Parts 7-9.—*Standardization of Anthropological Methods*. By F. Frassetto.—This paper, which is divided into two parts, one on a suggested method of standardizing the presentation of the curves normally used in anthropological work, and the other on the normal form of the human cranium, is naturally of great interest to all workers who are anxious to obtain some form of international agreement about methods of work. The author wishes to reduce all curves to an area of 100 cm.<sup>2</sup> and to abolish the standard deviation, substituting the bisextile deviation reduced to a percentage. It would ill become one who is not a statistician to criticize these suggestions, but I cannot help feeling that when we have in this country such a flourishing school of biometricians under so distinguished a leader as Professor Karl Pearson, we should be unwise to do anything but follow their lead, more especially since standardization is most easily obtained not by committees, but by the work of a school which by trying out various methods is in a position to make practical suggestions. The second part is not sufficiently detailed for criticism, but the author is convinced that the morphological method is better than the cephalic index in describing skulls. This is no doubt true if one could find a satisfactory method, but we hardly know at present the exact value of cranial form, however we estimate it.

L. H. DUDLEY BUXTON.



## PUBLICATIONS RECEIVED

Mention of books on this page does not preclude their further notice.

Adair, F. L. *Prevention of Neonatal Mortality from the Obstetrician's Point of View*. Washington, 1928. U.S. Department of Labour.

Anderson, S. E. *Lecithin: The Essence of Intelligence and its Carrier to Posterity*. California, 1930. Samuel Anderson. Pp. 34.

Boycott, A. E. *The Transition from Live to Dead: The Nature of Filtrable Viruses*. (Reprint from the SMITHSONIAN REPORT for 1929.) Pp. 323-43.

Churchill, Stella. *Health Services and the Public*. London, 1928. Noel Douglas. Pp. 258. Price 7s. 6d.

Cole, Prof. F. J. *Early Theories of Sexual Generation*. Oxford, 1930. Humphrey Milford. Pp. 210. Price 15s.

Doll, E. A. *The Mental Health Value of Special Education*. (Reprint from the ANNALS OF THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, May, 1930.) Pp. 6.

Donnan, F. G. *The Mystery of Life*. (Reprint from the SMITHSONIAN REPORT for 1929.) Pp. 309-21.

Dublin, L. I., and Lotka, A. J. *The True Rate of Natural Increase of the Population of the United States*. (Reprint from METRON, June, 1930.) Pp. 107-19.

Dublin, L. I., and Vane, E. J. *Causes of Death by Occupation*. Washington, 1930. Government Printing Office. Pp. 130.

Earle, F. M. *The Measurement of Manual Dexterities*. London, 1930. NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY. Pp. 88. Price 5s.

Eccles, A. K. *A Modification of the Vineland Adjustment Score Card*. (Reprint from the TRAINING SCHOOL BULLETIN, February, 1930.) Pp. 10.

Haire, N. (Editor). *The Sexual Reform Congress*. London, 1930. Kegan Paul. Pp. xi and 670. Price 25s.

H.M. Government. *Local Government Act, 1929*. London, 1930. Stationery Office. Pp. 183. Price 3s.

Hogben, L. T. *Principles of Animal Biology*. London, 1930. Christophers. Pp. 312. Price 8s. 6d.

Hogben, L. T. *The Nature of Living Matter*. London, 1930. Kegan Paul. Pp. 316. Price 15s.

Holland-Rantos Research Dept. *Suggestions for Contraceptive Practice*. New York, 1930. Holland-Rantos Co. Pp. 12.

League of Nations. *Memorandum Relating to the Enquiries into the Causes and Prevention of Still-Births and Mortality during the First Year of Life*. Geneva, 1930. LEAGUE OF NATIONS HEALTH ORGANIZATION. Pp. 95.

London School of Economics. *The New Survey of London Life and Labour, Vol. I*. London, 1930. P. S. King & Son. Pp. 438. Price 17s. 6d.

Melcher, R. T. *Research in Progress on Birth Injury*. (Reprint from the TRAINING SCHOOL BULLETIN, May, 1930.) Pp. 8.

Morgan, C. Lloyd. *The Animal Mind*. London, 1930. Edward Arnold. Pp. 271. Price 12s. 6d.

Muller, H. J. *Heritable Variations: Their Production by X-rays and Their Relation to Evolution*. (Reprint from the SMITHSONIAN REPORT for 1929.) Pp. 345-62.

Niceforo, A. *Misura e valore della Civiltà Memoria Letta all' Accademia di Scienze Morali e Politiche della Società Reale di Napoli*. Naples, 1930. TIPOGRAFIA SANGIOVANNI. Pp. 39.

Pearson, E. S., and Neyman, J. *On the Problem of Two Samples*. (Reprint from the BULLETIN DE L'ACADEMIE POLONAISE DES SCIENCES ET DES LETTRES CLASSE DES SCIENCES MATHÉMATIQUES ET NATURELLES. Serie A: Science Mathématiques, 1930.) Pp. 73-96.

Plunkett, C. R. *Outlines of Modern Biology*. New York, 1930. Henry Holt. Pp. 667.

Riley, G. L. *A Comparison of the P.C. and I.Q.* (Reprint from the PSYCHOLOGICAL CLINIC, Vol. XVIII, No. 9, February 1930.) Pp. 5.

Roth-Lutra, K. *Das Qualifikationsdiagramm und das Wahrscheinlichkeitsdiagramm*. (Reprint from VERHANDLUNGEN DER GESELLSCHAFT FÜR PHYSISCHE ANTHROPOLOGIE, 1929.) Pp. 31-57.

Roth-Lutra, K. *Ein Ergänzender Beitrag zu Rodenwaldts werk "Die Mestizen auf Kisar."* (Reprint from ZEITSCHRIFT FÜR ETHNOLOGIE, Heft 1/3.) Pp. 32-45.

Roth-Lutra, K. H. *Stufengraduelle Abweichungstabellen von Körperbaumerkmalen Rheinpfälzischer Mittelschuler*. (Reprint from ZEITSCHRIFT FÜR KONSTITUTIONSLEHRE, 15 Band, 4 Heft.) Berlin, 1930. Julius Springer. Pp. 518-43.

Roth-Lutra, K. H. *Typengrenzen: Abweichungsdiagramme und Abweichungstabellen von 37 Rassenmerkmalen Rheinpfälzischer Männer und Junglinge*. (Reprint from ZEITSCHRIFT FÜR ANATOMIE UND ENTWICKLUNGSGESCHICHTE, 92 Band, 3 Und, 4 Heft.) Berlin, 1930. Julius Springer. Pp. 484-542.

Russel, E. S. *The Interpretation and Development of Heredity*. Oxford, 1930. Oxford University Press. Pp. 307. Price 15s.

Saller, K. *Leitfaden der Anthropologie*. Berlin, 1930. Julius Springer. Pp. 270. Price Rm. 24 and 25.8.

Schlaginhaufen, Dr. Otto. *Dr. Med. Adolf Barth (1872-1930)*. (Reprint from ARCHIV DER JULIUS KLAUS-STIFTUNG, Band IV, 1929, Heft 3/4.)

Schlaginhaufen, Dr. Otto. *Das Skelett des Johannes Seluner*. (Reprint from des JAHR-BUCHES DER ST. GALLESCHEN NATURWISSENSCHAFTLICHEN GESELLSCHAFT, 1929-30.)

Sell, Dr. F. *Zeitschrift für Rassen-Physiologie*. Munich, 1930. J. F. Lehmanns. Pp. 49-96.

Slater, G. *Poverty and the State*. London, 1930. Constable. Pp. 458. Price 12s. 6d.

Smith, S. *Alcohol and Behaviour*. London, 1930. Oliver & Boyd. Pp. 37. Price 6d.

Walter, H. E. *Genetics: An Introduction to the Study of Heredity*. New York, 1924. Macmillan. Pp. 336. Price 10s.

Wheeler, G. C. *Racial Elements of European History*. London, 1930. Methuen. Pp. 268. Price 15s.



# LIST OF EXCHANGES

- American Journal of Physical Anthropology.* The Wistar Institute, Philadelphia, U.S.A.
- Anales del Hospital de la Santa Cruz, Barcelona, Spain.*
- Archives d'Hygiene,* Antokol Zakhad Higjeny U.S.B. Vilno, Poland.
- Archiv der Julius Klaus-Stiftung,* Bei Verlag Orell-Fussli, Zurich, Switzerland.
- Archiv für Rassen und Gesellschafts Biologie,* Verlag Lehmanns, Munich, Germany.
- Bibliographia Genetica.* Martinus Nijhoff, Lange Voorhout, 9, The Hague, Holland.
- Biometrika.* Biometric Laboratory, University College, London, W.C.1.
- Birth Control News,* 108, Whitfield Street, Tottenham Court Road, W.1.
- Birth Control Review,* 104, Fifth Avenue, New York, U.S.A.
- Boletim de Eugenia.* Dr. Renato Kehl, R. Smith Vasconcellos, 63 (Aguas Ferreas) Caixalostal 2926, Rio de Janeiro.
- British Institute of Philosophical Studies,* 88, Kingsway, W.C.2.
- British Journal of Inebriety,* 19, Park Crescent, Portland Place, W.1.
- British Journal of Psychology, The,* 52, Upper Bedford Place, W.C.1.
- Bruxelles Médical.* Administrateur, 62, Rue Froissart, Brussels, Belgium.
- Bulletin de la Société d'Etude des formes humaines,* Librairie Legrand, 93, Boulevard St. Germain, Paris, France.
- Bulletin de la Statistique Generale de la France.* C/o Le Directeur de la Statistique de la France, 97, Quai d'Orsay, Paris, VIIa, France.
- Bulletins et memoirs de la Société d'Anthropologie de Paris,* 120, Boulevard St. Germain, Paris.
- Bulletin of the International Union for the Scientific Investigation of Population Problems.* Editorial Office, Institute for Biological Research, 1901, East Madison Street, Baltimore, Maryland, U.S.A.
- Bulletin of British Library of Political Science.* London School of Economics, Houghton Street, W.C.2.
- The Child,* 19, Park Crescent, W.1.
- Coltura Popolare.* Via V. Bellini 13, Milano, Italy.
- Committee on Maternal Health.* Academy of Medicine Building, Fifth Avenue at 103rd Street, New York City.
- The Countryman.* Idbury, Kingham, Oxford.
- Czecho-Slovakia Eugenics Society.* Karlovo nam c.21.III. Prague, II.
- Difesa Sociale.* Istituto Italiano D'Igiene, Previdenza ed Assistenza Sociale, Via Marco Minghetti 17, Roma I. Italy.
- Economia.* Via Mazzini 15, Trieste, Italy.
- Educational Research Bulletin.* Bureau of Educational Research, Ohio State University, Ohio, U.S.A.
- Eugenical News.* Eugenics Record Office, Cold Spring Harbour, Long Island, U.S.A.
- Eugenics.* 185, Church Street, New Haven, Conn., U.S.A.
- Eugenique.* Librairie Balliere et Fils, 19, Rue Haute-fenille, Paris.
- Fortschritte der Medizin.* Hans Pusch, Berlin, W., 48, Friedrichstrasse 231, Germany.
- Genealogists' Magazine.* 5, Bloomsbury Square, W.C.1.
- Genetica.* Martinus Nijhoff, Lange Voorhout, 9, The Hague, Holland.
- Geschlecht und Gesellschaft.* Dr. Ferdinand, Freiherr von Reitzenstein. Geisecke, Dresden, A. Germany.
- Health and Empire.* British Social Hygiene Council, Carteret House, Carteret Street, S.W.1.
- Hereditas.* K. Universitets-Biblioteket, Lund, Sweden.
- Hippokrates.* Verlag. Stuttgart, Holzgartensr, 7, Leipzig and Zurich.
- Journal of Abnormal Psychology,* Dr. Allport, Syracuse University, Syracuse, New York, U.S.A.
- Journal of Applied Psychology.* University of Indiana, Bloomington, Ind., U.S.A.
- Journal of the Child Study Association.* 90, Buckingham Palace Road, S.W.1.
- Journal of Comparative Legislation.* 1, Elm Court, Temple, E.C.4.
- Journal of the American Institute of Criminal Law and Criminology,* 31, West Lake Street, Chicago, U.S.A.
- Journal of Delinquency, The.* Whittier State School, California, U.S.A.
- Journal of Educational Research.* E. J. Ashbaugh, School of Education, Miami University, Oxford, Ohio, U.S.A.
- Journal of Genetics.* Cambridge University Press, Fetter Lane, E.C.4.
- Journal of Heredity, The.* American Genetic Society, 1918 Harford Avenue, Maryland, U.S.A.
- Journal of Juvenile Research.* California Bureau of Juvenile Research, Whittier State School, Whittier, California, U.S.A.
- Journal of the Royal Sanitary Institute.* 90, Buckingham Palace Road, S.W.1.
- Journal of the Royal Statistical Society.* 9, Adelphi Terrace, Strand, W.C.2.
- The Lancet.* 1, Bedford Street, W.C.2.
- Man.* Royal Anthropological Institute, 52, Upper Bedford Place, W.C.2.
- The Mathematical Gazette.* Messrs. G. Bell & Sons, Ltd., Portugal Street, W.C.2.
- The Medical Officer.* 36, Whitefriars Street, E.C.4.
- Mental Hygiene.* National Committee for Mental Hygiene, 370, Seventh Avenue, New York City, U.S.A.

- Mental Welfare.* 24, Buckingham Palace Road, S.W.1.
- Metron*, c/o Professor Corrado Gini, Instituto di Statistica, 10, Via Terme di Diocleziano, Roma, Italy.
- Mother and Child* (late *National Health*). 5, Tavistock Square, W.C.1.
- The National Citizen.* National Citizens' Union, 56, Victoria Street, S.W.1.
- Nature.* Messrs. Macmillan, St. Martin's Street, W.C.
- The New Generation.* 17 and 19, Finsbury Street, E.C.2.
- New Health.* New Health Society, 39, Bedford Square, W.C.1.
- La Nipologia*, Via P5 Manani 13, Napoli.
- Physiological Abstracts.* Lewis and Co., Gower Street, London, and W. S. Hunter, Esq., Clark University, Worcester, Mass., U.S.A.
- Physiological Zoology.* University of Chicago Press, 5750, Ellis Avenue, Chicago, Illinois, U.S.A.
- Procedura penale italiana*, Via Giovanni, Nicotera, Rome, Italy.
- Proceedings of the Royal Society of Victoria, N.S.W.* Messrs. Ford & Sons, Drummond Street, Melbourne, Australia.
- Proceedings of the Royal Dublin Society.* Messrs. Williams & Norgate, 14, Henrietta Street, W.C.2.
- Quarterly Bulletin.* Imperial Bureau of Animal Genetics, King's Buildings, Edinburgh.
- Quarterly Return of the Registrar-General.* Somerset House, Strand, W.C.2.
- Quarterly Review of Biology.* Dr. Raymond Pearl, 1901 Madison Street East, Baltimore, U.S.A.
- Rassegna di Studi Sessuali.* Aldo Mieli, Via Casalmoferrato 29, Roma, 40, Italy.
- Resumptio Genetica.* Martinus Nijhoff, Lange Voorhout, 9, The Hague, Holland.
- Revue Anthropologique.* Librairie Emile Nourry, 108, Boulevard St. Germain, Paris.
- Revue d'Eugenique Belge.* 82, Rue de l'Ermitage, Bruxelles, Belgium.
- Revue de l'Institut de Sociologie* (Solway). 82, Rue de l'Ermitage, Bruxelles.
- Revue de l'Universite de Bruxelles.* 14, Rue de Sole, Bruxelles, Belgium.
- Rivista Italiana di Sociologia* Piazza di Petra, 34, Roma, Italy.
- Rivista Italiana di Statistica.* Diretta Dal. Prof. Felice Vinci, Rivista Italiana di Statistica, Università di Bologna, Bologna, Italy.
- Schweizerische Medizin.* Barro Schwabe and Co., Basle, Switzerland.
- Scientia.* 14, Via a Bertani, Milan 26, Italy.
- The Shield.* The Association for Moral and Social Hygiene, 2 & 4, Great Smith Street, S.W.1.
- Social Forces.* University of North Carolina Press (English Agents, Ballière, Tindall & Cox, 8, Henrietta St., W.C.2).
- Social Hygiene.* 105, West Fortieth Street, New York City, U.S.A.
- Social Service Bulletin*, 26, Bedford Square, W.C.1.
- Social Welfare.* The Social Service Council, 309, Metropolitan Buildings, 44, Victoria Street, Toronto, Canada.
- Société Française d'Eugenique.* 97, Quai d'Orsay, Paris.
- Sociological Review.* Leplay House, 65, Belgrave Road, S.W.1.
- The Statistical Bulletin*, Metropolitan Life Insurance Co., New York, U.S.A.
- South African Journal of Science.* P.O. Box 6894, Johannesburg, S. Africa.
- Training School Bulletin.* The Training School, Vineland, New Jersey, U.S.A.
- Volk und Rasse.* J. J. Lehmanns, Verlag, Munich.
- The World's Children.* 26, Gordon Street, W.C.1.
- World's Health.* League of Red Cross Societies, 2, Avenue Palasquez, Paris, 8.
- Zeitschrift fur Pädagogische.* W. Petrs, Pfaffenstieg, 3, Jena, Germany, and Scheibner und Stern, Kreuzstr. 14, Leipzig, Germany.
- Zeitschrift Volksaufartung und Erbkunde*, 1, Fahrgand Nr. 2, Berlin.

